

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (withdrawn) A system for providing voice communications over a packet-switched network, comprising:
 - a gateway server that handles calls received from a public switched telephone network and a packet-switched network;
 - a routing server; and
 - a database server, wherein messages can be sent between each of the gateway server, routing server, and database server over the packet-switched network.
2. (withdrawn) The system of claim 1, further comprising:
 - a provisioning system coupled to said database server.
3. (withdrawn) The system of claim 1, further comprising:
 - a management system; wherein messages can be sent between each of the gateway server, routing server, database server, and management system over the packet-switched network.
4. (withdrawn) The system of claim 3, further comprising:
 - a network manager that automatically queries a client database to determine an update, and sends a message representative of the update to at least one of the gateway server, routing server, database server, and management system over the packet-switched network.
5. (withdrawn) The system of claim 1, further comprising:
 - a licensing server.

6. (currently amended) A system for providing gateway services in a voice communication system over a packet-switched network, comprising:
 - an application layer that includes application services; and
 - a platform for sessions and modules, wherein said application layer includes a gateway serveree and a common service[[.]]; and
 - a routing manager that manages usage on the gateway server, wherein the routing manager comprises:
 - maintaining means for maintaining a list of routes;
 - managing means for managing connections to the routing servers on the network;
 - exporting means for exporting local routes to routing servers;
 - importing means for importing disseminated routes from routing servers;
 - receiving means for receiving a request for a route;
 - obtaining means for obtaining static global and dynamic routes from routing servers;
 - caching means for caching said static global and said dynamic routes for future use;
 - finding means for finding matching routes for a specific telephone number; and
 - prioritizing means for prioritizing matching routes.
7. (original) A system of claim 6, wherein said application layer also includes an autoforward service.
8. (original) A system of claim 7, wherein said platform includes a session manager that creates and manages sessions.
9. (original) A system of claim 8, wherein said session manager includes a rule engine.

10. (original) A system of claim 8, wherein said session corresponds to a voice call.
11. (currently amended) A system of claim 8, further comprising:
 - a line group manager that coordinates communication between a telephone line side and a packet-switched network side of the gateway server;
 - ~~a routing manager that manages route usage on the gateway server;~~
 - a database access manager that monitors access to the database server;
 - a media manager that manages voice prompt usage; and
 - a call rating manager that determines the costs to apply to each call.
12. (currently amended) A system of claim [[11]] 8, further comprising:
 - a parsing subsystem coupled to said routing manager.
13. (original) A system of claim 12, wherein said parsing subsystem comprises:
 - maintaining means for maintaining a parsing table;
 - receiving means for receiving call information;
 - determining means for determining a country code;
 - retrieving means for retrieving pattern data from said parsing table;
 - determining means for determining an area code;
 - determining means for determining a local number;
 - determining means for determining an extension; and
 - outputting means for outputting a call address.
14. (currently amended) A system of claim [[11]] 8, further comprising:
 - a dynamic cache subsystem coupled to said routing manager.
15. (original) A system of claim 12, wherein said parsing subsystem matches routes by wildcarding.
16. (original) A system of claim 11, further comprising:
 - a conversion module.

17. (original) A system of claim 11, further comprising:
a hardware device manager module that coordinates telephony and network components.
18. (cancelled)
19. (currently amended) A system of claim [[18]] 8, further comprising:
connecting means for connecting to routing servers; and
managing means for managing connections to routing servers.
20. (withdrawn) A system for a gateway server, comprising:
first handling means for handling calls on a packet-switched network;
second handling means for handling calls on a telephony network;
bridging means for bridging said calls with routes between both a packet-switched network and a telephony network;
first interacting means for interacting with calls to collect user information;
first interfacing means for interfacing with routing system;
second interfacing means for interfacing with database system; and
second interacting means for interacting with other gateway servers.
21. (withdrawn) A system of claim 20, wherein said routes comprise:
querying means for querying for a route; and
providing means for providing said route, wherein said route is stored locally on the gateway server.
22. (cancelled)
23. (cancelled)
24. (cancelled)

25. (currently amended) A system for routing server, comprising:
 - first receiving means for receiving exported local routes from gateway servers[(;)], wherein said first receiving means for receiving exported local routes includes:
 - requesting means for requesting exportable local routes from gateway servers;
 - receiving means for receiving said exportable local routes from gateway servers;
 - transforming means for transforming said exportable local routes into dynamic routes on the routing server;
 - storing means for storing said dynamic routes; and
 - updating means for updating said dynamic routes.;
 - transforming means for transforming exported local routes into dynamic routes;
 - first storing means for storing said dynamic routes;
 - second storing means for storing static global and disseminated routes;
 - first providing means for providing said disseminated routes to gateway servers;
 - second receiving means for receiving requests for matching routes from gateway servers;
 - determining means for determining a matching route; and
 - second providing means for providing said matching route.
26. (cancelled)
27. (original) A system of claim 25, wherein said means for transforming an exported local route comprises:
 - receiving means for receiving exported local routes;
 - first checking means for checking a route address entry;
 - second checking means for checking route timing information;

third checking means for checking a route access entry;
fourth checking means for checking route ordering information;
first adding means for adding a route identity;
second adding means for adding of exporting gateway server; and
third adding means for adding a temporal stamp to said exported local route.

28. (original) A system of claim 25, wherein said means for disseminated routing comprise:
 - first providing means for providing routes to a routing server;
 - querying means for querying the routing server for said routes configured for dissemination; and
 - second providing means for providing matching routes to a gateway server.
29. (original) A system of claim 25, wherein said means for dynamic routing, comprise:
 - connecting means for connecting to a routing server;
 - querying means for querying a routing server;
 - providing means for providing matching routes to a gateway server;and
 - matching means for storing said matching routes on a gateway server.
30. (original) A system of claim 25, wherein said means for static global routing, comprise:
 - connecting means for connecting to a routing server;
 - querying means for querying a routing server; and
 - providing means for providing matching routes to a gateway server.
31. (cancelled)

32. (cancelled)
33. (cancelled)
34. (cancelled)
35. (withdrawn) A method of providing voice communications over a packet-switched network, comprising the steps of:
 - handling calls received from a public switched telephone network and a packet-switched network with a gateway server that;
 - distributing call routing information with a routing server; and
 - managing user and call information with a database server, wherein messages can be sent between each of the gateway server, routing server, and database server over the packet-switched network.
36. (withdrawn) The system of claim 35, further comprising the steps of:
 - accessing database records with a provisioning system coupled to said database server.
37. (withdrawn) The system of claim 35, further comprising the steps of:
 - configuring system properties with a management system, wherein messages can be sent between each of the gateway server, routing server, database server, and management system over the packet-switched network.
38. (withdrawn) The system of claim 37, further comprising the steps of:
 - updating system components with a network manager that automatically queries a client database to determine an update, and sends a message representative of the update to at least one of the gateway server, routing server, database server, and management system over the packet-switched network.
39. (withdrawn) The system of claim 35, further comprising the steps of:

registering system components with a licensing server.

40. (currently amended) A method of providing gateway services in a voice communication system over a packet-switched network, comprising the steps of:

instantiating application services within an application layer; and
providing a software object platform for sessions and modules,
wherein said application layer includes a gateway service and a common
service[[.]]; and
managing route usage on the gateway server with a routing manager,
wherein managing route usage includes:
maintaining means for maintaining a list of routes;
managing connections to the routing servers on the network;
exporting local routes to routing servers;
importing disseminated routes from routing servers;
receiving a request for a route;
obtaining static global and dynamic routes from routing servers;
caching said static global and said dynamic routes for future use;
finding matching routes for a specific telephone number; and
prioritizing matching routes.

41. (original) A method of claim 40, wherein said application layer also includes an autoforward service.
42. (original) A method of claim 41, wherein said platform includes a session manager that creates and manages sessions.
43. (original) A method of claim 42, wherein said session manager includes a rule engine.
44. (original) A method of claim 42, wherein said session corresponds to a voice call.

45. (cancelled)
46. (currently amended) A method of claim 4[[5]]0, further comprising the steps of:
 - maintaining a parsing subsystem coupled to said routing manager.
47. (original) A method of claim 46, wherein said parsing subsystem comprises the steps of:
 - maintaining a parsing table;
 - receiving call information;
 - determining a country code;
 - retrieving pattern data from said parsing table;
 - determining an area code;
 - determining a local number;
 - determining an extension; and
 - outputting a call address.
48. (currently amended) A method of claim 4[[5]]0, further comprising the steps of:
 - maintaining a dynamic cache subsystem coupled to said routing manager.
49. (original) A method of claim 46, wherein said parsing subsystem matches routes by wildcarding.
50. (currently amended) A method of claim 4[[5]]0, further comprising the steps of:
 - connecting a conversion module.
51. (currently amended) A method of claim 4[[5]]0, further comprising the steps of:

coordinating telephony and network components with a hardware device manager module.

52. (cancelled)
53. (currently amended) A method of claim [[52]] 40, further comprising the steps of:
connecting to routing servers; and
managing connections to routing servers.
54. (withdrawn) A method of a gateway server, comprising the steps of:
handling calls on a packet-switched network;
handling calls on a telephony network;
bridging said calls with routes between both a packet-switched network and a telephony network;
interacting with calls to collect user information;
interfacing with routing system;
for interfacing with database system; and
for interacting with other gateway servers.
55. (withdrawn) A method of claim 54, wherein said routes comprise:
querying for a route; and
providing said route, wherein said route is stored locally on the gateway server.
56. (cancelled)
57. (cancelled)
58. (cancelled)
59. (cancelled)

60. (cancelled)
61. (cancelled)
62. (cancelled)
63. (cancelled)
64. (cancelled)
65. (withdrawn) A method of ordering routes, comprising the steps of:
 - checking the address of a route;
 - checking the preference of a route;
 - checking the cost estimate of a route;
 - checking the quality of service of a route; and
 - checking the type of route.
66. (withdrawn) A method of prioritizing routes, comprising the steps of:
 - checking a route address entry;
 - checking route timing information;
 - checking a route access entry;
 - checking route ordering information;
 - determining a reduced route;
 - comparing a requested route with said reduced route; and
 - providing a list of routes.
67. (cancelled)
68. (cancelled)
69. (withdrawn) A computer program product comprising a computer useable medium having computer program logic stored therein, said computer program logic comprising:

means for enabling a computer to handle calls received from a public switched telephone network and a packet-switched network with a gateway server;

means for enabling a computer to distribute call routing information with a routing server; and

means for enabling a computer to manage user and call information with a database server, wherein messages can be sent between each of the gateway server, and database server over the packet-switched network.

70. (withdrawn) The computer program product of claim 69, further comprising:

means for enabling a computer to access database records with a provisioning system coupled to said database server.

71. (withdrawn) The computer program product of claim 69, further comprising:

means for enabling a computer to configure system properties with a management system; wherein messages can be sent between each of the gateway server, routing server, database server, and management system over the packet-switched network.

72. (withdrawn) The computer program product of claim 71, further comprising:

means for enabling a computer to update system components with a network manager that automatically queries a client database to determine an update, and sends a message representative of the update to at least one of the gateway server, routing server, database server, and management system over the packet-switched network.

73. (withdrawn) The computer program product of claim 72, further comprising:

means for enabling a computer to register system components with a licensing server.

74. (currently amended) A computer program product of providing gateway services in a voice communication system over a packet-switched network, comprising:

means for enabling a computer to instantiate application services within an application layer; and

means for enabling a computer to provide a software object platform for sessions and modules, wherein said application layer includes a gateway service and a common service[. . .]; and

means for enabling a computer to manage route usage on the gateway server with a routing manager, wherein the routing manager includes;

means for enabling a computer to maintain means for maintaining a list of routes;

means for enabling a computer to manage means for managing connections to the routing servers on the network;

means for enabling a computer to export means for exporting local routes to routing servers;

means for enabling a computer to import means for importing disseminated routes from routing servers;

means for enabling a computer to receive means for receiving a request for a route;

means for enabling a computer to obtain means for obtaining static global and dynamic routes from routing servers;

means for enabling a computer to cache means for caching said static global and said dynamic routes for future use;

means for enabling a computer to find means for finding matching routes for a specific telephone number; and

means for enabling a computer to prioritize means for prioritizing matching routes.

75. (original) A computer program product of claim 74, wherein said application layer also includes an autoforward service.

76. (original) A computer program product of claim 75, wherein said platform includes a session manager that creates and manages sessions.
77. (original) A computer program product of claim 76, wherein said session manager includes a rule engine.
78. (original) A computer program product of claim 76, wherein said session corresponds to a voice call.
79. (currently amended) A computer program product of claim 76, further comprising:
 - means for enabling a computer to coordinate communication between a telephone line side and a packet-switched network side of the gateway server with a line group manager;
 - ~~means for enabling a computer to manage route usage on the gateway server with a routing manager;~~
 - means for enabling a computer to monitor access to the database server with a database access manager;
 - means for enabling a computer to manage voice prompt usage with a media manager; and
 - means for enabling a computer to determine the costs to apply to each call with a call rating manager.
80. (original) A computer program product of claim 79, further comprising:
 - means for enabling a computer to maintain a parsing subsystem coupled to said routing manager.
81. (original) A computer program product of claim 80, wherein said parsing subsystem comprises:
 - means for enabling a computer to maintain means for maintaining a parsing table;

- means for enabling a computer to receive means for receiving call information;
- means for enabling a computer to determine means for determining a country code;
- means for enabling a computer to retrieve means for retrieving pattern data from said parsing table;
- means for enabling a computer to determine means for determining an area code;
- means for enabling a computer to determine means for determining a local number;
- means for enabling a computer to determine means for determining an extension; and
- means for enabling a computer to output means for outputting a call address.
82. (original) A computer program product of claim 79, further comprising:
- means for enabling a computer to maintain a dynamic cache subsystem coupled to said routing manager.
83. (original) A computer program product of claim 80, wherein said parsing subsystem matches routes by wildcarding.
84. (original) A computer program product of claim 79, further comprising:
- means for enabling a computer to connect a conversion module.
85. (original) A computer program product of claim 79, further comprising:
- means for enabling a computer to coordinate telephony and network components with a hardware device manager module.
86. (cancelled)

87. (currently amended) A computer program product of claim [[86]] 74, further comprising:
 - means for enabling a computer to connect means for connecting to routing servers; and
 - means for enabling a computer to manage means for managing connections to routing servers.
88. (withdrawn) A computer program product of a gateway server, comprising:
 - means for enabling a computer to handle calls on a packet-switched network;
 - means for enabling a computer to handle calls on a telephony network;
 - means for enabling a computer to bridge said calls with routes between both a packet-switched network and a telephony network;
 - means for enabling a computer to interact with calls to collect user information;
 - means for enabling a computer to interface with routing system;
 - means for enabling a computer to interface with database system; and
 - means for enabling a computer to interact with other gateway servers.
89. (withdrawn) A computer program product of claim 88, wherein said routes comprise:
 - means for enabling a computer to query for a route; and
 - means for enabling a computer to provide means for providing said route, wherein said route is stored locally on the gateway server.
90. (currently amended) A computer program product of a routing server system comprising:

means for enabling a computer to serve routes with a routing application layer; **and**

means for enabling a computer to provide a common object platform for memory and modules, wherein said routing application layer includes a route translation service[[.]];

means for enabling a computer to request exportable local routes from gateway servers;

means for enabling a computer to receive said exportable local routes from gateway servers;

means for enabling a computer to transform said exportable local routes into dynamic routes on the routing server;

means for enabling a computer to store said dynamic routes; and

means for enabling a computer to update said dynamic routes.

91. (original) A computer program product of claim 90, further comprising:

means for enabling a computer to maintain a parsing subsystem coupled to the routing server.

92. (original) A computer program product of claim 91, wherein said parsing subsystem comprises:

means for enabling a computer to maintain a parsing table;

means for enabling a computer to receive call information;

means for enabling a computer to determine a country code;

means for enabling a computer to retrieve pattern data from said parsing table;

means for enabling a computer to determine an area code;

means for enabling a computer to determine a local number;

means for enabling a computer to determine an extension; and

means for enabling a computer to output a call address.

93. (currently amended) A computer program product of routing server of claim 90, comprising:

means for enabling a computer to receive exported local routes from gateway servers;

means for enabling a computer to transform exported local routes into dynamic routes;

means for enabling a computer to store said dynamic routes;

means for enabling a computer to store static global and disseminated routes;

means for enabling a computer to provide said disseminated routes to gateway servers;

means for enabling a computer to receive requests for matching routes from gateway servers;

means for enabling a computer to determine a matching route; and second providing means for provide said matching route.

94. (cancelled)

95. (original) A computer program product of claim 93, wherein said means for transforming an exported local route comprises:

means for enabling a computer to receive exported local routes;

means for enabling a computer to check a route address entry;

means for enabling a computer to check route timing information;

means for enabling a computer to check a route access entry;

means for enabling a computer to check route ordering information;

means for enabling a computer to add a route identity;

means for enabling a computer to add of exporting gateway server; and

means for enabling a computer to add a temporal stamp to said exported local route.

96. (original) A computer program product of claim 93, wherein said means for disseminated routing comprise:

means for enabling a computer to provide routes to a routing server;
means for enabling a computer to query the routing server for said routes configured for dissemination; and
means for enabling a computer to provide matching routes to a gateway server.

97. (original) A computer program product of claim 93, wherein said means for dynamic routing, comprise:

means for enabling a computer to connect to a routing server;
means for enabling a computer to query a routing server;
means for enabling a computer to provide matching routes to a gateway server; and
means for enabling a computer to store said matching routes on a gateway server.

98. (original) A computer program product of claim 93, wherein said means for static global routing, comprise:

means for enabling a computer to connect to a routing server;
means for enabling a computer to query a routing server; and
means for enabling a computer to provide matching routes to a gateway server.

99. (withdrawn) A computer program product of ordering routes, comprising:

means for enabling a computer to check the address of a route;
means for enabling a computer to check the preference of a route;
means for enabling a computer to check the cost estimate of a route;
means for enabling a computer to check the quality of service of a route; and
means for enabling a computer to check the type of route.

100. (withdrawn) A computer program product of prioritizing routes, comprising:
 - means for enabling a computer to check a route address entry;
 - means for enabling a computer to check route timing information;
 - means for enabling a computer to check route access entry;
 - means for enabling a computer to check route ordering information;
 - means for enabling a computer to determine a reduced route;
 - means for enabling a computer to compare a requested route with said reduced route; and
 - means for enabling a computer to provide a list of routes.
101. (cancelled)
102. (cancelled)
103. (cancelled)
104. (cancelled)
105. (cancelled)